



2011 Session

Exhibit 13

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EXHIBIT 13
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HB 6



Apsáalooke Water and Wastewater Authority

Project Activities Report

January 2011



Apsaalooke Water and Wastewater Authority
Post Office Box 159
Crow Agency MT 59022

Directors

John Doyle, Jr., Chairman

Larry Kindness

James Real Bird

Introduction

After experiencing years of wastewater backing-up into his home and repeatedly going to the US Bureau of Indian Affairs (BIA) for help and finding little help, John Doyle, Jr. and a local business owner, whose store was also affected, worked together to draft a petition and gather the signatures needed to request the Tribe help find a solution. That was in the mid 90's and the beginning of what has now become the Apsaalooke Water and Wastewater Authority. Prior to the formation of the Authority, an ad-hoc committee was established in 2002 to initiate improvements to water and wastewater infrastructure in Crow Agency. The ad-hoc committee was comprised of John Doyle, Jr., Larry Kindness, Mike Not Afraid, James Real Bird, and Angela Russell.

Years before the wastewater back-ups John Doyle, Jr., Larry Kindness, and a number of others questioned the discharge of wastewater into the Little Bighorn River. Being active hunters, fishermen, and swimmers along the river's banks and seeing the destruction caused by the discharge, they sought a regulatory agency. Finding none, they watched in disbelief as aquatic life was impacted with what seemed to them very little concern. Since then, they have undertaken many efforts to return the river to its pristine state.

The efforts are receiving national recognition. They are featured in articles in *Family & Community Health* (July-September 2010), *Nature* magazine, and National Science Foundation's *Vision and Change* report. The efforts were also formally recognized as an "advance in science" by Dr. Barbara Alving, Director of the National Center for Research Resources, National Institutes of Health.

Condition of Wastewater System in Crow Agency

The Crow Agency wastewater collection system was first built in 1911 and has been expanded by various governmental agencies over the years. The wastewater lagoon facility is grossly undersized and severely deteriorated. The lagoon does not provide adequate detention time nor does it provide adequate aeration or mixing. The degraded structural integrity of the lagoon creates concern for its collapse. The lagoon is not capable of meeting current or future needs of the community.

The type of wastewater pipe installed throughout much of the community is unknown. However, due to the age of system, the majority of the pipes are most likely vitrified clay, a material expected to last 40-50 years if installed under average soil conditions using acceptable construction standards. Consequently, a large part of the system is nearing or beyond its useful

life. Evidence of cracked pipes, root penetration, sagging lines, offset joints, crumbling manhole barrels, missing steps, and settling can be seen in many parts of the system. Operators report sewer back-ups into basements, backed-up manholes, broken steps, improper inlet connections, square manholes, and other problems. Failure of the system has exposed the public to raw, untreated sewage, which presents a serious risk to health and safety, including illness, disease outbreak, and environmental pollution.

Condition of Drinking Water System in Crow Agency

The Crow Agency water distribution system was first built in 1911 and has been expanded by various governmental agencies over the years. The system leaks terribly as evidenced by lost water accounting for 33% of total water usage. Approximately 20% of the fire hydrants in town are broken. In addition to contributing to the leakage, the nonfunctioning hydrants cannot be relied on to protect property and life in the event of fire. Leaky systems also pose risks to public health as the leaks create a means for unwanted contaminants to enter the system in two ways: either a contaminant entering through a leak or during the repair of a leak.

Crow Agency water distribution pipes do not meet 2007 Ten States Standards which stipulate that the minimum size of water pipe which provides for fire protection and serving fire hydrants be 6-inch diameter or larger. Approximately 14 hydrants are connected to undersized 4-inch pipes.

Crow Agency is served by two water treatment plants. The first plant was constructed in 1965 and is property of the BIA and, as such, is referred to as the BIA plant. A second plant was constructed in 1978, to meet higher water demands, and is property of the Crow Tribe and, as such, is referred to as the Tribal plant. Neither of the plants was designed to meet current or future water treatment standards. Both plants have undergone renovations since their initial construction but the renovations have not made improvements to meet treatment standards. The plants have numerous problems. Not only do the plants struggle to provide an adequate quantity of water, but they are unable to reliably produce safe drinking water which meets United States Safe Drinking Water Act standards. Historically, it has been difficult to maintain finished water turbidity which meets Environmental Protection Agency standards. Both plants have been out of compliance many times. Coliform presence in the finished water has also been an ongoing problem.

In 2008, the Authority learned there were exceedingly high concentrations of *Escherichia coli* (*E. coli*) in the community's raw water source, the Little Bighorn River. High *E. coli* concentrations are generally an indication that *Cryptosporidium* is present in the water. Consequently, additional specialty treatment measures need to be implemented at the plants. The presence of *Cryptosporidium* places water consumers at grave risk. *Cryptosporidium* is a protozoan parasite that is resistant to disinfection with chlorine and can cause severe gastrointestinal illness, especially in people with sensitivity such as infants, the elderly, and people with compromised immunity.

Creation of Apsaalooke Water and Wastewater Authority in 2004

In October 2004, the Legislative Branch of the Crow Tribe passed a bill for an act entitled "An Ordinance of the Crow Tribe creating, establishing, and organizing the Apsaalooke Water and Wastewater Authority". The Ordinance established the following purposes for the Authority:

1. To remedy unsafe and unsanitary water, sewer, and other related facilities in and to the town and communities within the Crow Indian Reservation that are inadequate and either injurious to the public health, safety, and the environment or potentially injurious to the public health, safety, and the environment of these communities; and,
2. To provide employment opportunities through the construction, reconstruction, improvement, extension, alteration or repair, and operation of these water, sewer, and other related facilities.

When formed, the Authority was comprised of three Directors. The same three Directors make-up the Authority today: The Directors serve as volunteers and meet, typically, once a week. An ongoing challenge for the Authority is the lack of an operating budget to support administrative expenses such as travel and office space.

Crow Tribal Attorney Urban Bear Don't Walk manages the Authority's legal affairs. Tribal Comptroller Kristin Johnson provides financial management to the Authority's projects. Tribal Contracts and Grants Specialist Frances Pretty Paint coordinates project efforts between Authority Directors and Executive and Legislative Branch leaders and project contractors. Since 2003, the Authority has contracted with Morrison-Maierle, Inc. to provide engineering services to the improvement projects. The Authority has contracted with Nittany Grantworks since 2007 to provide grant writing and administration services to the projects.

Funding Secured to Support Improvements

Since 2003 the Authority has secured over \$18 million in grant and low-interest loan funding, TERO fees, and cash and in-kind contributions to support the improvement and operation of water and wastewater infrastructure in Crow Agency. The following is a breakdown of support received to date:

Grant Funding	\$15,042,375
Low-interest Loan Funding	\$ 2,685,000
Navy Seabees In-kind Earthwork Contribution	\$ 292,000
Big Horn County Cash Contribution	\$ 159,000
TERO Fees	\$ 118,378
Apsaalooke Nation Housing Authority Cash Contribution	\$ 70,000
Stephen Jennings In-kind Land Contribution	\$ 16,000
TOTAL	\$18,382,753

The contributions have specifically been used to support Phases 1 – 4a of improvements to water and wastewater infrastructure in Crow Agency and the purchase of a backhoe to be used throughout the reservation. Grant and low-interest loan funding were secured from the following agencies: US Department of Agriculture Rural Development, US Environmental Protection Agency, US Army Corps of Engineers, US Housing and Urban Development, Montana Department of Commerce, and Montana Department of Natural Resources and Conservation.

It is important to note that approximately \$1.7 million of the grant funding received was part of the American Recovery and Reinvestment Act of 2009.

Phase 1 Improvement Project

The Phase 1 Wastewater Interceptor Project cost \$3,959,585 and was complete in October 2008. The Phase 1 project replaced approximately 5,300 linear feet of wastewater interceptor pipe, 20 manholes, 600 linear feet of storm drain pipe, 2,000 linear feet of water distribution pipe, one water booster station, and the southwest lift station. Western Municipal was the construction contractor. An as-built figure, sources of funding list, and final financial report for the Phase 1 project have been included as Appendix A.

Phase 2 Improvement Project

The Phase 2 Wastewater Lagoon Project is under construction at the time of preparing this report. When complete, in March 2011, the final cost of the project is expected to be \$6,748,448. The Phase 2 project constructed a new wastewater lagoon and bulk watering station, extended the wastewater interceptor pipe 2,175 linear feet, and replaced 200 linear feet of storm drain pipe, 20 fire hydrants, 28 water service saddles, and 4,314 linear feet of wastewater collection pipe.

The site for the new lagoon was obtained from tribal member Stephen Jennings, an attorney in Honesdale, Pennsylvania. Mr. Jennings traded his 76 acres of irrigated land for 80 acres of non-irrigated Tribal land on the Bighorn River. Because Mr. Jennings' property was irrigated, the BIA valued it \$55,000 more than the property he received in trade. To cover the difference, Big Horn County gave \$39,000 in cash to the Tribe, via the BIA, for payment to Mr. Jennings and Mr. Jennings waived or donated the remaining \$16,000 he was owed. The acreage provided space for the construction of four cells and allows for the construction of additional cells as the community grows or the lagoon needs to serve additional homes and businesses in Crow Agency.

To ready the property for construction, Navy Seabees did extensive earthwork removal and site preparation, an in-kind contribution valued at \$292,000. Equipment Operator Senior Chief (EOCS) Tom Tringham provided leadership to the Seabee unit. As a token of appreciation for the Seabees work, Tribal Chairman Carl Venne granted EOCS Tom Tringham permission to shoot

a buffalo and share the meat with the unit. The Seabees treasured the rare opportunity and enjoyed the hunt.

Big Horn County contributed an additional \$100,000 in cash to the project to offset construction costs. C&S Construction was the construction contractor. The Phase 2 project created 16 construction jobs in Crow Agency and employed 14 tribal members. As-built figures, sources of funding list, and a midway financial report for the Phase 2 project have been included as Appendix B.

Even with the new lagoon in operation, the old lagoon still poses a serious risk to citizens and the environment. The old, abandoned lagoon needs to be decommissioned by the BIA. The BIA estimates the cost of decommissioning the lagoon to be \$3.5 million and has not indicated when it will be initiated or completed. As long as the old lagoon sits idle, it exposes citizens to harmful toxins and can contaminate the Little Bighorn River.

Phase 3 Improvement Project

The Phase 3 Wastewater Collection System Improvement Project is expected to cost \$6,927,000 and be initiated in 2011 and complete in 2012. The Phase 3 project will replace 10,865 linear feet of wastewater collection pipe, 2,170 linear feet of drinking water distribution pipe, 46 manholes, and 6 fire hydrants. Figures, cost estimates, and a sources of funding list for the Phase 3 project have been included as Appendix C.

Phase 4 Improvement Project

The Phase 4a-1 Drinking Water Improvement Project is expected to cost \$3,217,500 and be initiated in 2012 and complete in 2013. The Phase 4a project will install a drinking water ultraviolet disinfection system and replace approximately 8,000 linear feet of drinking water distribution pipe. To date, the Authority has secured \$650,000 in grant funding, requested \$1,250,000 in grant funding, and plans to request an additional \$1,305,000 in grant funding in 2011. A figure, cost estimate, and proposed sources of funding list for the Phase 4a-1 project have been included as Appendix D.

The Phases 4a-2 and 4b Drinking Water Improvement Projects are expected to cost \$18,559,000 and be complete in 2018. The Phase 4a-2 project will construct a new drinking water treatment plant and the Phase 4b project will add capacity to the new drinking water treatment plant. At this time, the Authority has preliminary engineering plans for the Phases 4a-2 and 4b projects but has not begun fundraising for final design and construction costs.

Purchase of a Backhoe

In 2009, the Authority purchased a backhoe to support the operation and maintenance of water and wastewater infrastructure throughout the reservation. The backhoe cost \$85,000

and was purchased with \$65,000 in grant funding from the Montana Department of Commerce Coal Impact Grant Program and \$20,000 from Big Horn County. Big Horn County sponsored the Coal Impact Grant Program application because the total amount of funding awarded to Indian tribes may not exceed 7% of the total funding allocated to the Program each fiscal year.

Support from Crow Tribal and US Senatorial Leaders

Since improvements to water and wastewater infrastructure were initiated in the late 90's there have been five Tribal Chairpersons: Clara Nomee, Clifford Birdinground, Vincent Goes Ahead, Carl Venne, and Cedric Black Eagle. With each new leader, support for the improvements has remained consistent.

The improvements have been adamantly supported by US Senator Max Baucus. Since 2008, Senator Baucus has secured over \$1.6 million in earmarks for the improvements. The earmarks have been in the forms of State and Tribal Assistance and Water Resources Development Act grants.

Future of Infrastructure in Crow Agency

The recent and planned improvements to water and wastewater infrastructure in Crow Agency will serve the community, when properly maintained, for 50 to 100 years. Unlike the incomplete and inaccurate plans and as-built figures the Authority had to use to understand the condition of the old infrastructure, the new improvements have been exceptionally documented. The engineering reports and as-built figures for the improvements are comprehensive and accurate and will be resourceful to the community in the future.

Maintaining the new infrastructure is imperative to safeguarding citizens, protecting the environment, and caring for the financial investment made by all stakeholders. Identifying and securing funding to plan and construct the improvements has been overwhelming and at times unnerving. The amount and diversity of funds received would not have been possible without critical planning, determination, patience, and diligence. The Authority had to 'think outside of the box' numerous times to pursue funding. One of the first and most critical allotments of funding the Authority received was \$70,000 from the Apsaalooke Nation Housing Authority. The Water and Wastewater Authority used the funds to pay for the first preliminary engineering report in 2001. The Authority has been diligent, over the years, about requesting funding from the BIA and Indian Health Service (IHS). The BIA has provided approximately \$130,000 and the IHS approximately \$1.4 million.

In order to maintain the infrastructure in Crow Agency, funding will be imperative. Unlike capital improvement projects, state and federal grant programs do not support ongoing operating and maintenance costs. Most communities operate and maintain infrastructure with revenue from monthly user fees. If the monthly user fees collected do not adequately provide

the funds needed to operate and maintain the systems, then the systems need to be subsidized with funding from other Tribal sources.

Pictures and Newspaper Articles

Pictures and newspaper articles depicting the Authority's projects have been included as Appendix E.

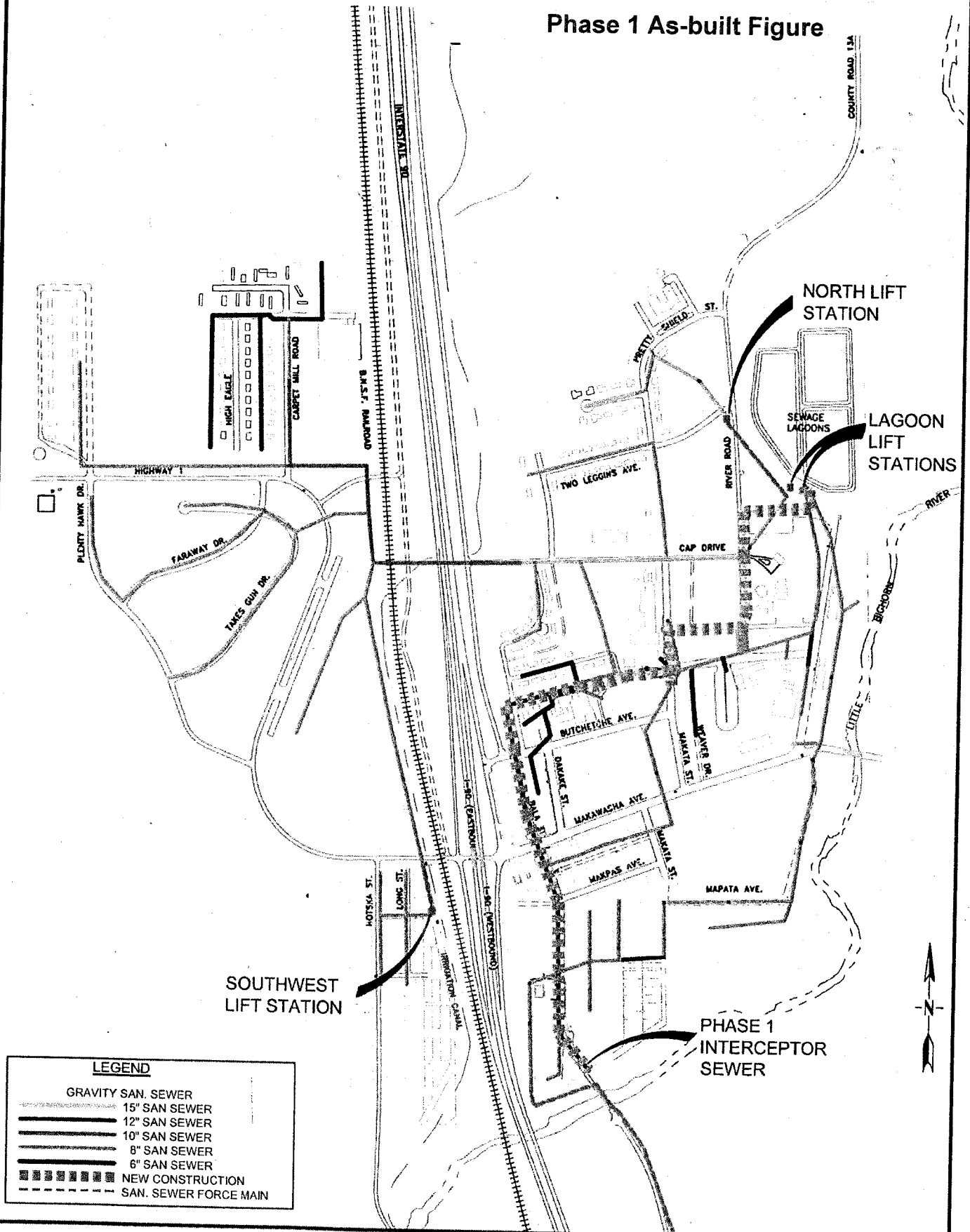
Appendix A

Phase 1 As-built Figure

Phase 1 Sources of Funding List

Phase 1 Final Financial Report

Phase 1 As-built Figure



**MORRISON
MAIERLE, INC.**
An Employee-Owned Company

Engineers
Surveyors
Scientists
Planners

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DRAWN BY: MJS
CHK'D BY: JG
APPR BY: CJA
DATE: 03/2008

CROW AGENCY PRELIMINARY ENGINEERING REPORT
CROW AGENCY MONTANA

PROJECT NO.
1230.010-0211

EXISTING WASTEWATER COLLECTION SYSTEM
WITH PHASE 1 INTERCEPTOR SEWER

FIGURE NUMBER
Fig. 5.3

Phase 1 Sources of Funding List

Construction

USDA Rural Development Utilities Program Loan (40 years at 4.25%)	\$ 962,222
USDA Rural Development Indian Set-aside Grant	\$1,000,000
US Indian Health Service Memorandum of Agreement	\$ 293,500
US EPA Housing Grant	\$ 217,670
US EPA Drinking Water Tribal Set-aside Grant	\$ 697,613
MT DOC Treasure State Endowment Grant	\$ 500,000
Crow Tribe of Indians	<u>\$ 37,280</u>
TOTAL	\$3,708,285

Planning

Apsaalooke Nation Housing Authority	\$ 70,000
US BIA Cash	\$ 130,000
MT DOC Coal Impact Program Grant	<u>\$ 51,300</u>
TOTAL	\$ 251,300

TOTAL PROJECT COST: \$ 3,959,585